

CLAIMS

1. A method of manufacturing a torsion bar having a spring portion in a midway area in a longitudinal direction and joint portions on both ends in the longitudinal direction, comprising:

5 a first shaping step of reducing a diameter of a steel material by reduction of area within a predetermined range according to cold drawing work so as to heighten a hardness of the entire steel material within a predetermined range; and

10 a second shaping step of cutting the midway area of the steel material in the longitudinal direction so as to obtain the spring portion.

2. The method of manufacturing the torsion bar according to claim 1, wherein the hardness of the entire steel material after the cold drawing work is 320 or more to 450 or less by Vickers hardness (HV).

3. The method of manufacturing the torsion bar according to claim 1, wherein the reduction of area is 12 to 15%.

4. The method of manufacturing the torsion bar according to claim 1, wherein at the first shaping step, the diameter of the shaped steel material with the diameter being reduced by the cold drawing work is set so as to be slightly larger than a finished diameter of the joint portions, and at the second shaping step, not only the spring portion but also the joint portions are cut so that the diameter of the joint portions is managed.

5. The method of manufacturing the torsion bar according to claim 1, wherein at the first shaping step, the cold drawing work is carried out at a plurality of times, and in an equation $\gamma = \{(A0 - A1) / A0\} \times 100$ in which the reduction of area of the steel material at each time is $\gamma(\%)$, a cross section of the steel material before the drawing work is $A0$, and a cross section of the steel material after final work of the drawing work is $A1$, the reduction of area is set to 12 to 15%, and the Vickers

hardness (HV) is set to 320 or more.

5 6. The method of manufacturing the torsion bar according to claim 1, further comprising the blueing step of giving blueing work to the steel material before or after the second shaping step.

10 7. A torsion bar having a spring portion in a midway portion in a longitudinal direction and joint portions on both ends in the longitudinal direction, said torsion bar being manufactured by a first shaping step of reducing a diameter of a steel material by reduction of area within a predetermined range according to cold drawing work so as to heighten a hardness of the entire steel material within a predetermined range and the second shaping step of cutting the midway area of the steel material in the longitudinal direction so as to obtain the spring
15 portion.

8. The torsion bar according to claim 7, wherein the hardness of the entire steel material after the cold drawing work is 320 or more to 450 or less by Vickers hardness (HV).

20 9. The torsion bar according to claim 7, wherein the reduction of area is 12 to 15%.